

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
21 October 2004 (21.10.2004)

PCT

(10) International Publication Number
WO 2004/090475 A3

(51) International Patent Classification⁷: **G01F 1/58**
(21) International Application Number:
PCT/GB2004/001618
(22) International Filing Date: 14 April 2004 (14.04.2004)
(25) Filing Language: English
(26) Publication Language: English
(30) Priority Data:
0308446.4 14 April 2003 (14.04.2003) GB

(71) Applicant (for all designated States except US): **SENTEC LIMITED** [GB/GB]; Brunswick House, 61-69 Newmarket Road, Cambridge CB5 8EG (GB).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **GLAUSER, Antony, Robert** [GB/GB]; Sentec Limited, Brunswick House, 61-69 Newmarket Road, Cambridge CB5 8EG (GB). **KNILL, Alexander, Charles** [GB/GB]; Sentec Limited, Brunswick House, 61-69 Newmarket Road, Cambridge CB5 8EG (GB).

(74) Agent: **MAGUIRE BOSS**; 5 Crown Street, St. Ives, Cambridgeshire PE27 5EB (GB).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

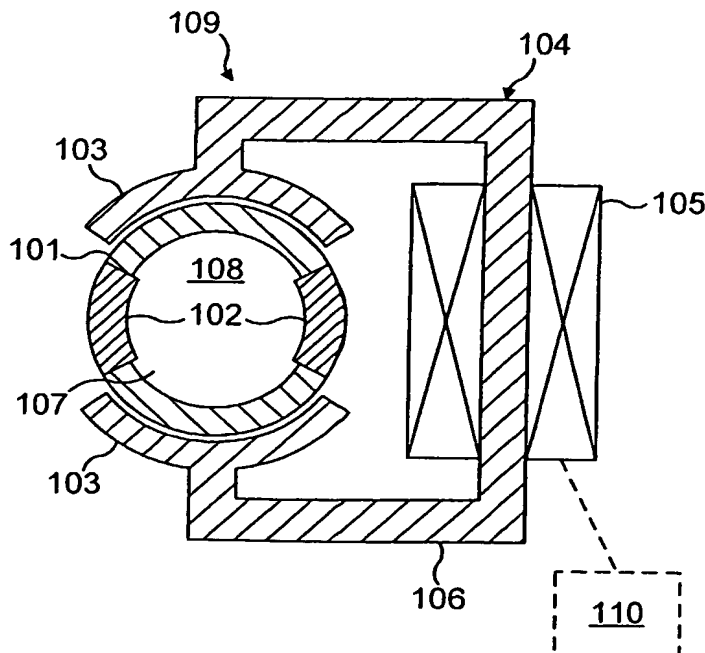
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

[Continued on next page]

(54) Title: **MAGNETIC FLOW TRANSDUCER AND FLOW METER INCORPORATING THE SAME**



(57) Abstract: A magnetic transducer (109) for measuring the flow of a fluid (108) has electrodes (102) and an alternating magnetic field (107), an electrode (102) having lower noise energy at frequencies below 5Hz than an electrode comprising carbon or corrosion-resistant metal alloy. The noise characteristic of the electrode (102) at magnetic field frequencies around 1 Hz is lower than that of an electrode comprising carbon or corrosion-resistant metal alloy.



(88) Date of publication of the international search report:
24 March 2005

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL SEARCH REPORT

International Application No

/GB2004/001618

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 G01F1/58

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 G01F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, INSPEC, COMPENDEX

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	GB 1 303 730 A (DATAWELL N.V.) 17 January 1973 (1973-01-17) the whole document	1-4, 12, 13, 16-18
X	DATABASE WPI Section Ch, Week 198147 Derwent Publications Ltd., London, GB; Class J04, AN 1981-865440 XP002312808 - & SU 800 650 A (TALLIN POLY) 30 January 1981 (1981-01-30) abstract	1-3, 12, 15-18
X	US 3 299 703 A (COLVIN ALEX D ET AL) 24 January 1967 (1967-01-24) column 5, line 17 - line 32; figure 5 -/-	1-9, 12, 16-18

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

A document defining the general state of the art which is not considered to be of particular relevance

E earlier document but published on or after the International filing date

L document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

O document referring to an oral disclosure, use, exhibition or other means

P document published prior to the International filing date but later than the priority date claimed

T later document published after the International filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

* & * document member of the same patent family

Date of the actual completion of the International search

14 January 2005

Date of mailing of the International search report

26/01/2005

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Politsch, E

INTERNATIONAL SEARCH REPORT

International Application No
 . . . /GB2004/001618

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	PATENT ABSTRACTS OF JAPAN vol. 003, no. 139 (E-152), 17 November 1979 (1979-11-17) & JP 54 116960 A (HITACHI LTD), 11 September 1979 (1979-09-11) abstract -----	1-4, 12, 15-18

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

P/GB2004/001618

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
GB 1303730	A	17-01-1973	DE 2025594 A1 FR 2052499 A5	09-12-1971 09-04-1971
SU 800650	A	30-01-1981	SU 800650 A1	30-01-1981
US 3299703	A	24-01-1967	NONE	
JP 54116960	A	11-09-1979	NONE	